

Organic photodetectors with switchable photosensitivity are achieved using organic photoactive layers in electrode/organic/electrode structures. The photosensitivity can be switched on and off by the biasing voltage across the detectors. The photocurrent can be probed with a read-out circuit in the loop. These photodetectors can be arranged in linear arrays or in two-dimensional matrices that function as high performance, linear or two-dimensional image sensors. These image sensors can achieve full color or selected color detection capability.